

**HIGH PERFORMANCE NUCLEIC ACID HYBRIDIZATION**  
**DEVICE AND PROCESS**

**ABSTRACT OF THE DISCLOSURE**

5       The invention discloses a device for hybridization reaction between  
a target molecule in a fluid and a probe, which comprises a microfluidic  
channel comprising a first portion and a second portion following said first  
portion; wherein said first portion have an irregular cross section and said  
second portion has a probe, and a fluid driving element connected the ends  
of said channel with tubes, wherein said fluid element can move said target  
10       molecules back-and-forth for repeatedly passing through said second  
portion.

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